

How To Read Flight Procedure Boards

TRUKN

Procedure – All procedures use a five-letter designation. Two departure procedures are shown on this board: the “TRUKN” and the “SSTIK”



PORTE

Waypoint – Represents a latitude/longitude point aircraft fly to while on a procedure. Waypoints also use five-letter designations. This waypoint is pronounced “PORT”.

Departures

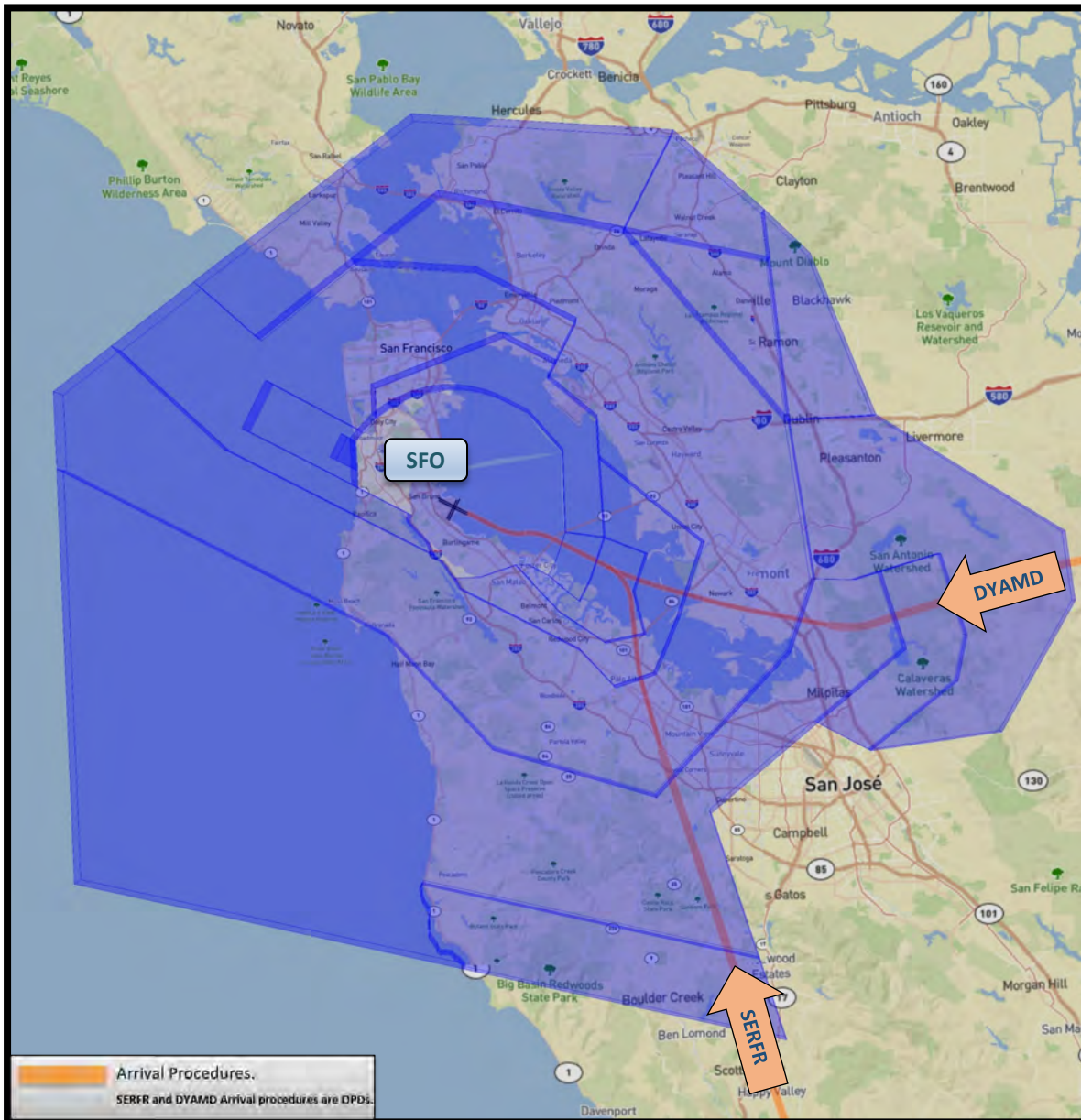
PBN Procedure – Represents procedures that use satellite navigation.

Arrivals

Dispersed Path Area – Notional representation of the area that aircraft may fly when air traffic controllers give pilots headings to follow (vectors).

ATC: Air Traffic Control
Vector: ATC-issued compass heading
RNAV: Area Navigation

What is the SFO Class B Redesign?



Procedure

- Redesign of airspace to contain the procedures the Bay area.
- Redesign allows for use of Optimized Profile Descent (OPD) procedures to be more fully utilized, including DYAMD and SERFR.
- Aircraft have the ability to fly the approach at idle power.
- There are 5 published arrival procedures designed with OPD at SFO.

Background

- FAA held public workshops in 2017 per National Environmental Policy Act outreach requirements.
- FAA received and responded to public comments.
- Redesign does not change existing procedures.
- Redesign more fully accommodates precise procedures within highly controlled airspace.

Status

- Redesign implemented in August 2018.



What is the CNDEL Departure?

Procedure

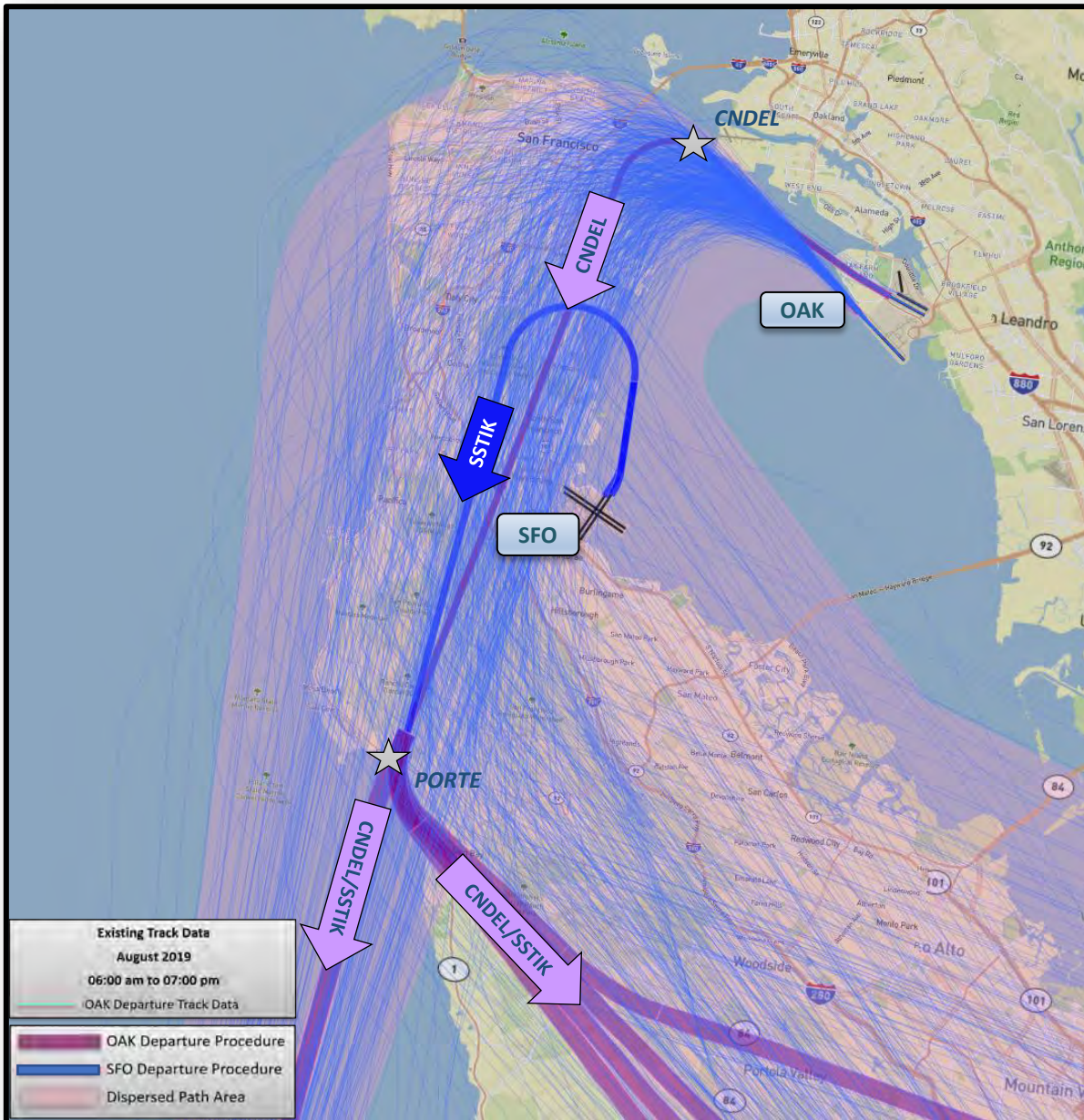
- Procedure used by aircraft departing OAK.
- Aircraft depart to the north, then turn to the south, then continue to the south or southeast.

Background

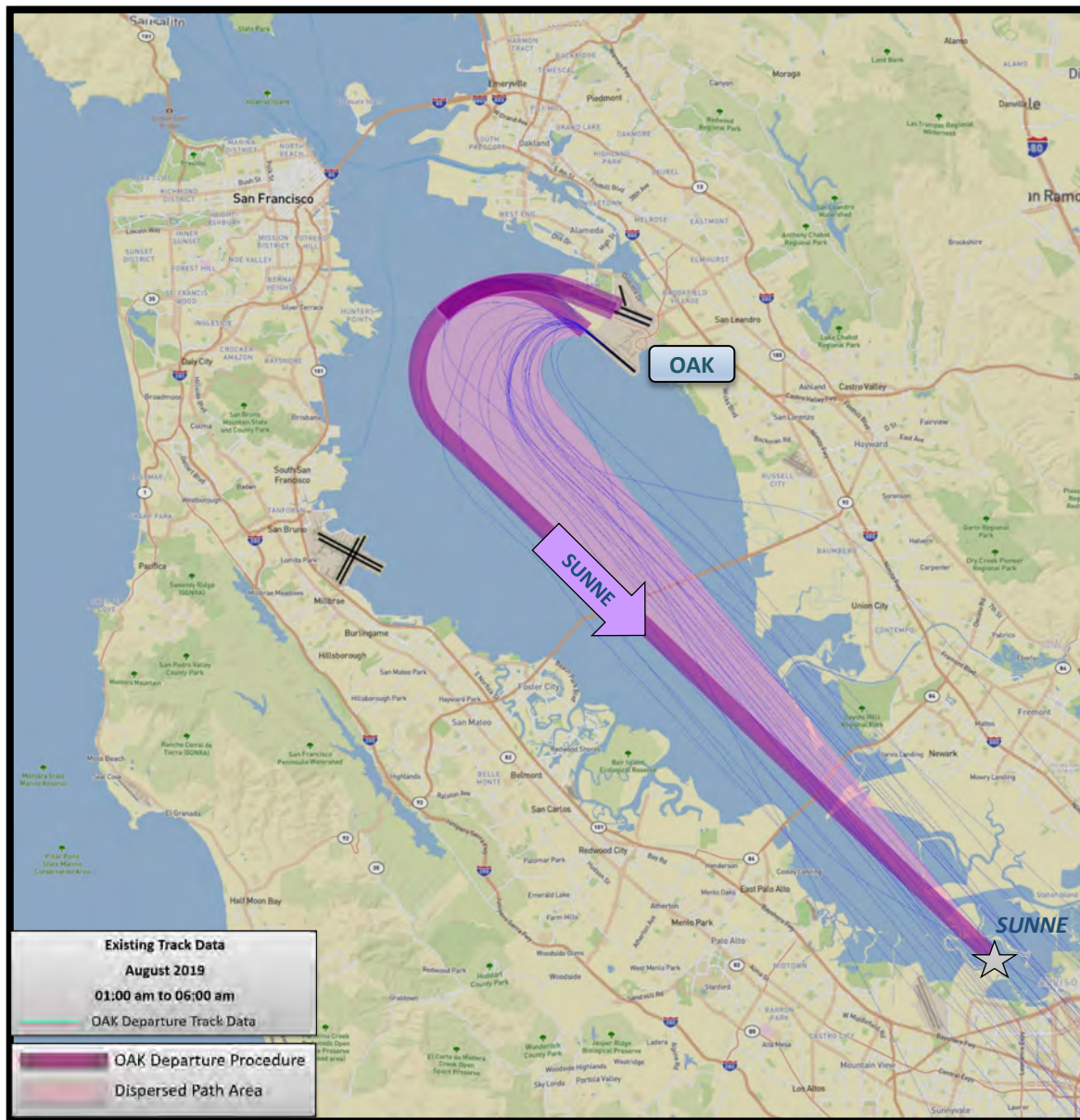
- The request was for aircraft to remain on CNDEL until at least CNDEL waypoint.
- During typical daily operations, aircraft are vectored off the departure due to complexity and volume.
- Once airborne, SFO SSTIK departures and OAK CNDEL departures are flying toward each other.
- Aircraft departures from SFO and OAK must be merged into a single stream before the PORTE waypoint.

Status

- Aircraft will remain on the CNDEL departure when air traffic conditions allow



What is the SUNNE Departure?



Procedure

- Procedure used by OAK departures.
- Fly down the Bay on a navigational heading of 120 degrees to the SUNNE waypoint.
- When the proposed NIITE and HUSSH are used for 1 am – 5 am departures, use of the SUNNE will be limited due to conflicting air traffic.

Background

- The request was to fly down the bay as much as possible at night.
- Created to allow the procedure to be inputted to an aircraft's Flight Management System.
- Used to the maximum extent for 1 am – 6 am departures.
- Primarily used by aircraft departing on Runway 30.
- Aircraft are sometimes altitude restricted over the Bay after takeoff due to other departure procedures from SFO and SJC.

Status

- Implemented in January 2021.



What is the NIITE/HUSSH Departure Proposal?

Procedure

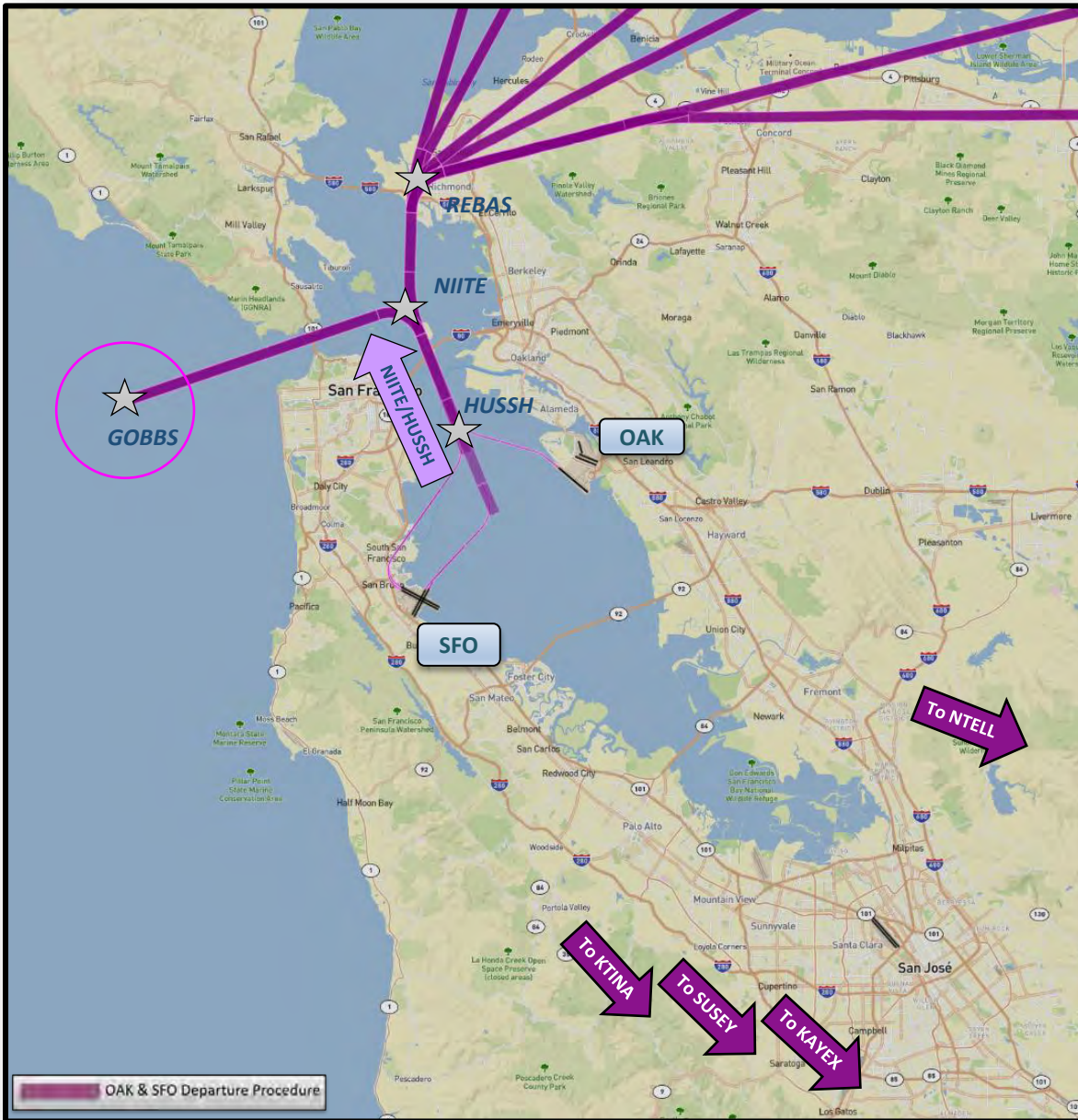
- Procedures from SFO (NIITE) and OAK (HUSSH) used by departures at night for noise abatement.
- Depart from SFO and OAK and fly over the Bay as much as possible during nighttime hours.
- Fly to the NIITE waypoint in the Bay, then northeast to REBAS or west over the Golden Gate Bridge to GOBBS.
- When the NIITE/HUSSH proposal is used for 1 am - 5 am departures, use of the SUNNE will be restricted due to conflicting air traffic.
- After crossing GOBBS, eastbound aircraft will be at or above 13,000 feet altitude.

Background

- The request was to fly over the Bay as much as possible at night.
- FAA met with airports and airport community groups numerous times to discuss procedure implementation.
- FAA agreed these procedures could be used between 1:00 am – 5:00 am.
- Aircraft using NIITE and HUSSH to GOBBS would typically be cargo flights.
- Aircraft from SFO and OAK are merged into a single stream prior to the NIITE waypoint.

Status

- Implementation pending additional stakeholder input.



What is BDEGA In-Trail Spacing?

Procedure

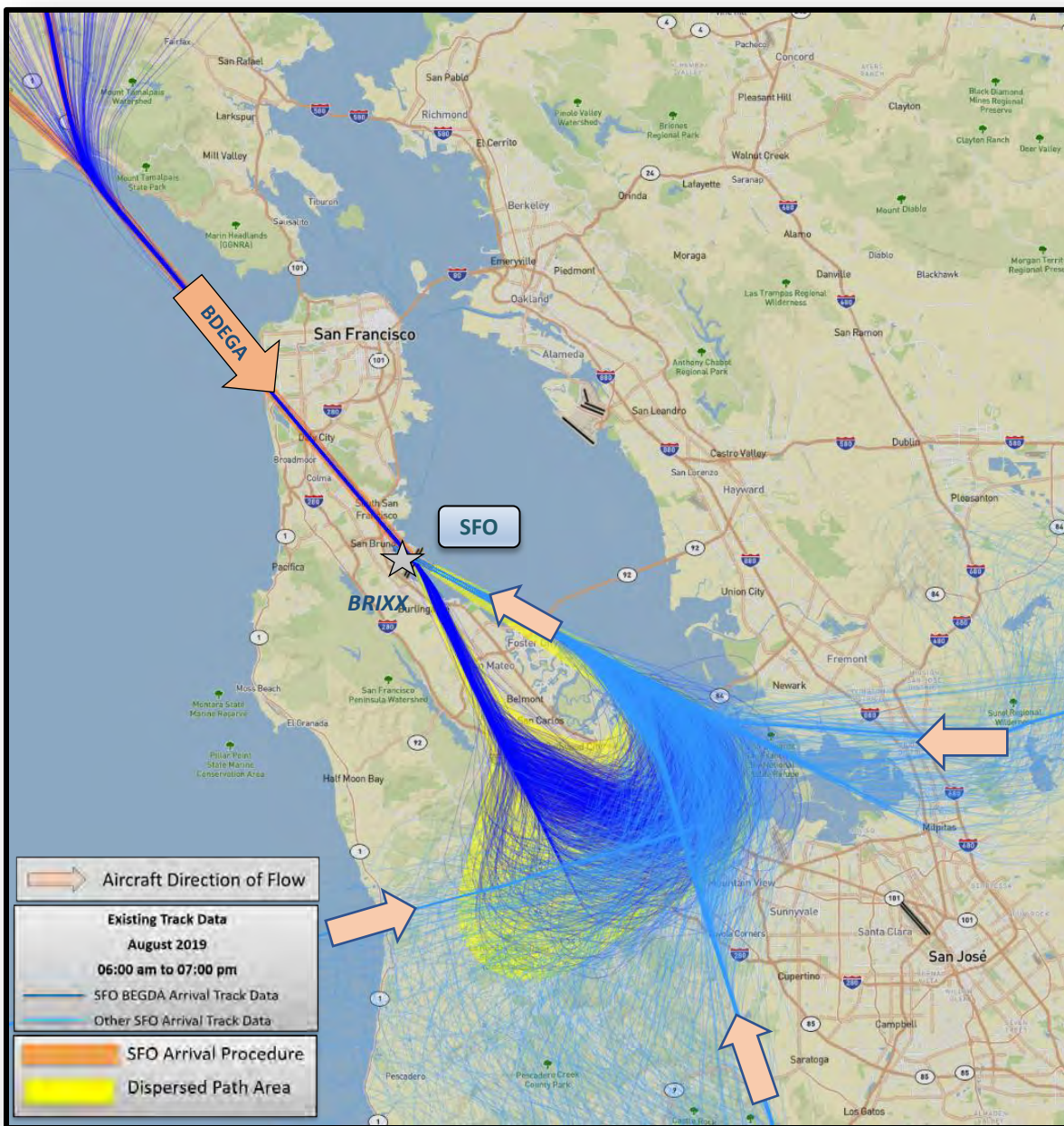
- Procedure for SFO arriving aircraft.
- SFO arrivals from the north fly to a waypoint, then are vectored to the approach.

Background

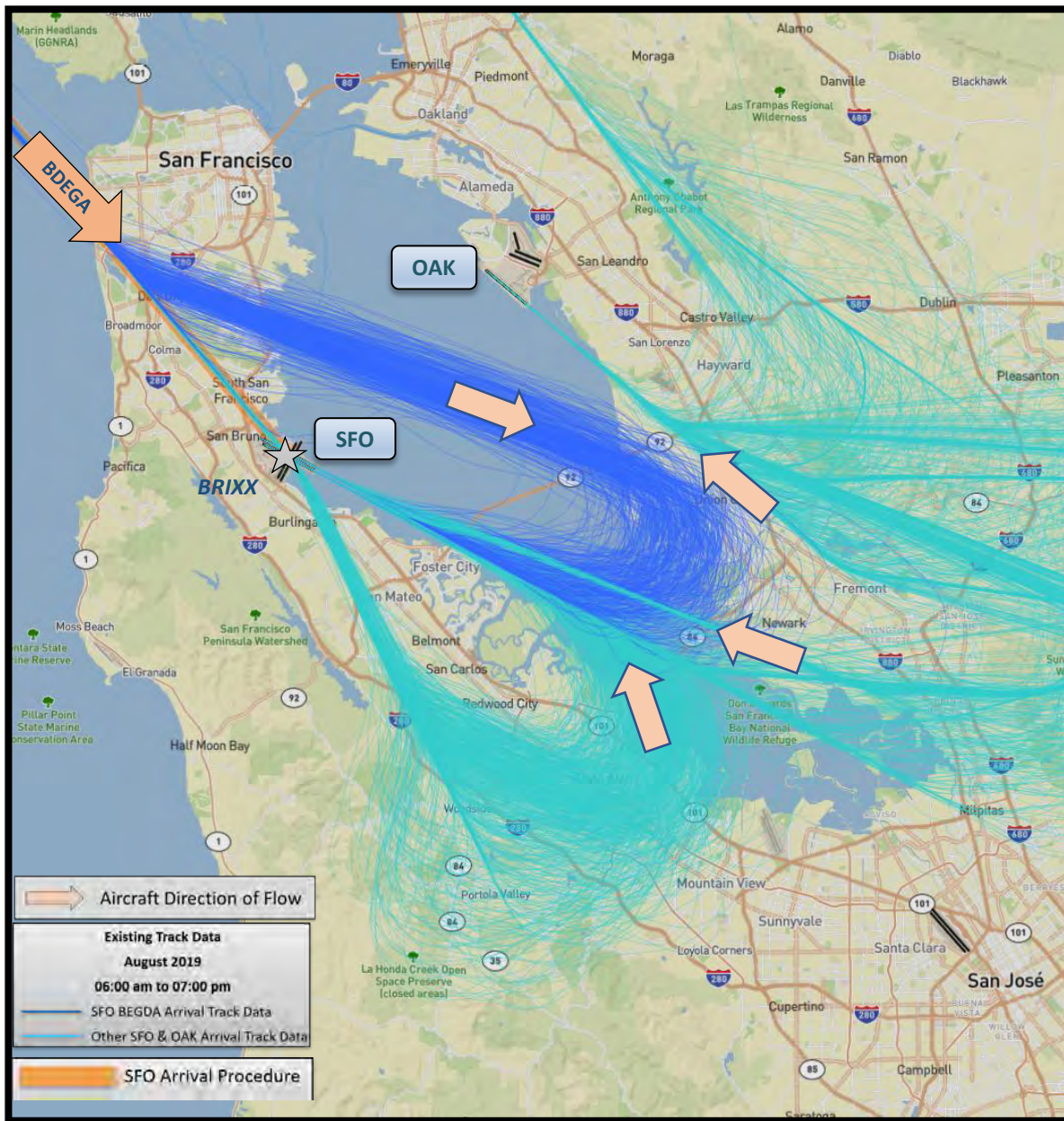
- The request was to increase spacing between aircraft that fly over the peninsula on the BDEGA arrival.
- In-trail spacing of aircraft is a minimum distance of 5 nautical miles (NM).
- Increasing the spacing beyond 5 NM would delay aircraft arriving to SFO throughout the country.

Status

- Aircraft on the BDEGA arrival will continue to use the 5 NM minimal spacing in order to not disproportionately delay those aircraft.



What is the Down the Bay procedure?



Procedure

- SFO arrivals from the north fly to a waypoint, then are vectored over the bay for an approach.

Background

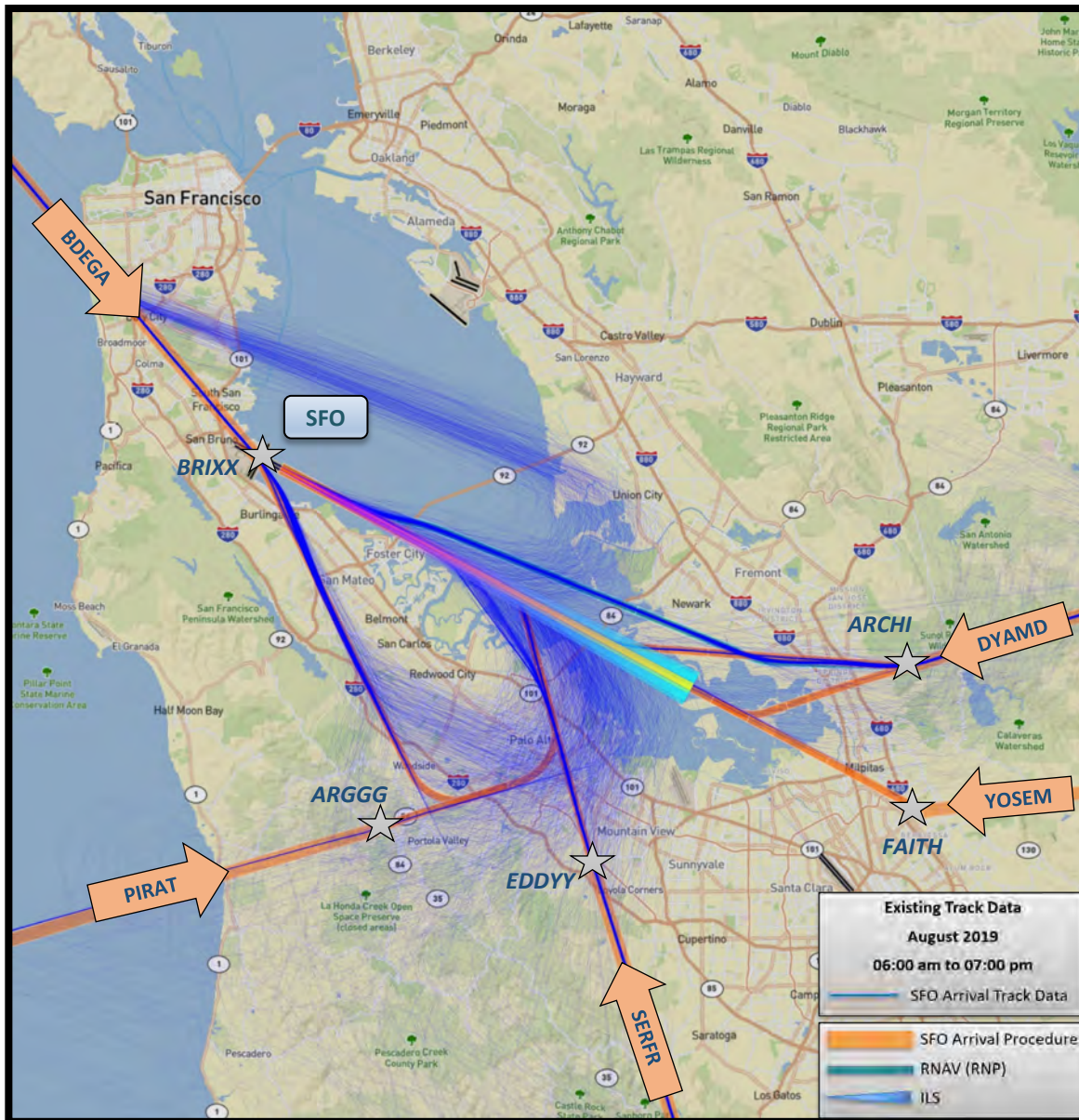
- The request was to increase use of the “Down the Bay” for aircraft arriving to SFO.
- Northern California TRACON updated its Standard Operational Procedures (SOP) in 2017 to strengthen language for use of procedure.
- An SFO “Down the Bay” arrival is opposite direction to OAK arrivals
- The “Down the Bay” procedure is used when it is safe to do so.

Status

- FAA conducts annual Air Traffic Controller refresher training on SOP requirements.



What is Time Based Flow Management (TBFM)/Sequencing?



Procedure

- Provides for time-based spacing of aircraft at higher altitudes so that less vectoring is needed closer to the airport.
- When TBFM is implemented, it is used as a scheduling/metering tool for all arrivals at an airport.

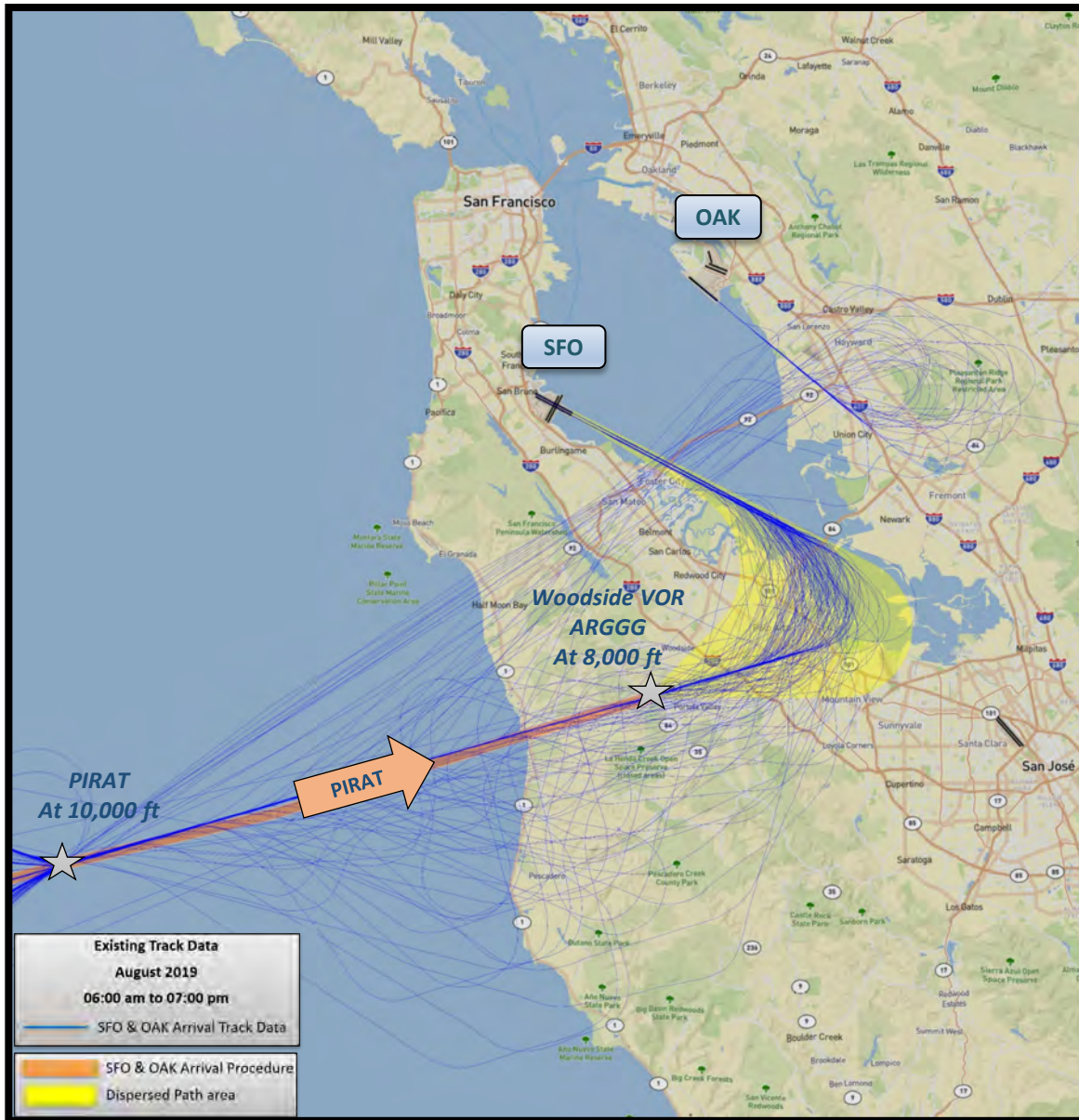
Background

- The request was to implement TBFM for aircraft on the BDEGA arrival.
- Aircraft arriving from all directions are merged into one stream.
- Use of TBFM would need to be applied to all arrivals.

Status

- TBFM currently used for SFO arrivals under most circumstances.
- TBFM is also used for the other airports, including OAK and SJC.
- TBFM is used for all arrivals at an airport, not for a singular arrival flow.

What is the PIRAT Arrival?



Procedure

- Arrival procedure for oceanic flights to SFO and OAK.
- Aircraft cross the PIRAT waypoint at 10,000 feet.
- SFO arrivals fly the procedure to the ARGGG waypoint, then are vectored to the final approach.
- ARGGG waypoint located near the Woodside VOR.

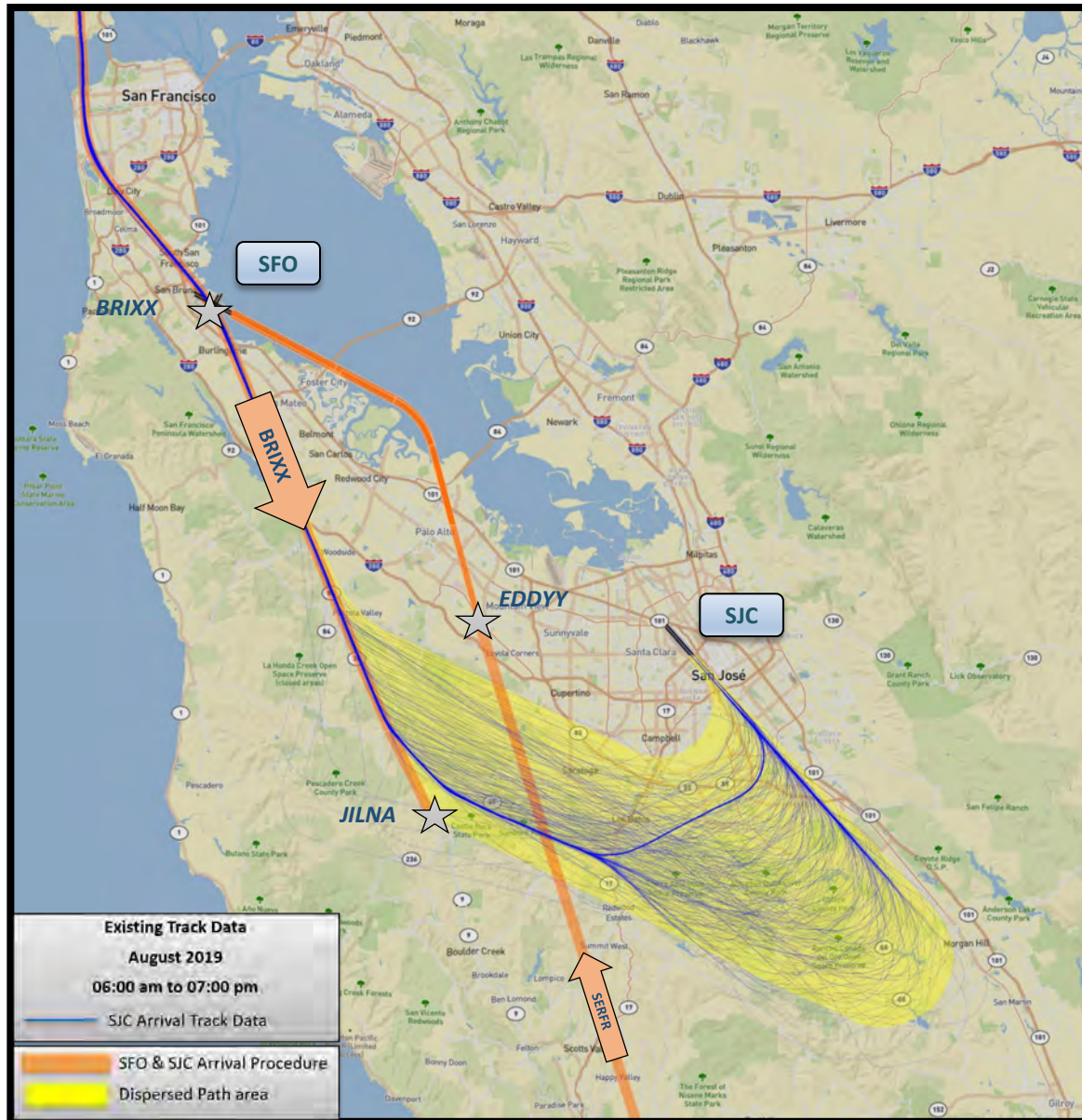
Background

- The request to design an arrival that followed the historic noise abatement procedure of crossing Woodside VOR at or above 8,000 feet.
- The PIRAT arrival was designed for oceanic arrivals to OAK and SFO.
- The PIRAT replaced the private approach, called the Ocean Tailored Arrival, used by one airline.

Status

- The procedure was implemented in April 2019.

What is the BRIXX Arrival?



Procedure

- Arrival procedure for flights from the north to SJC.
- Aircraft fly procedure to the BRIXX waypoint, then may be vectored to the final approach.
- Aircraft on the BRIXX arrival are kept above SFO arrivals.

Background

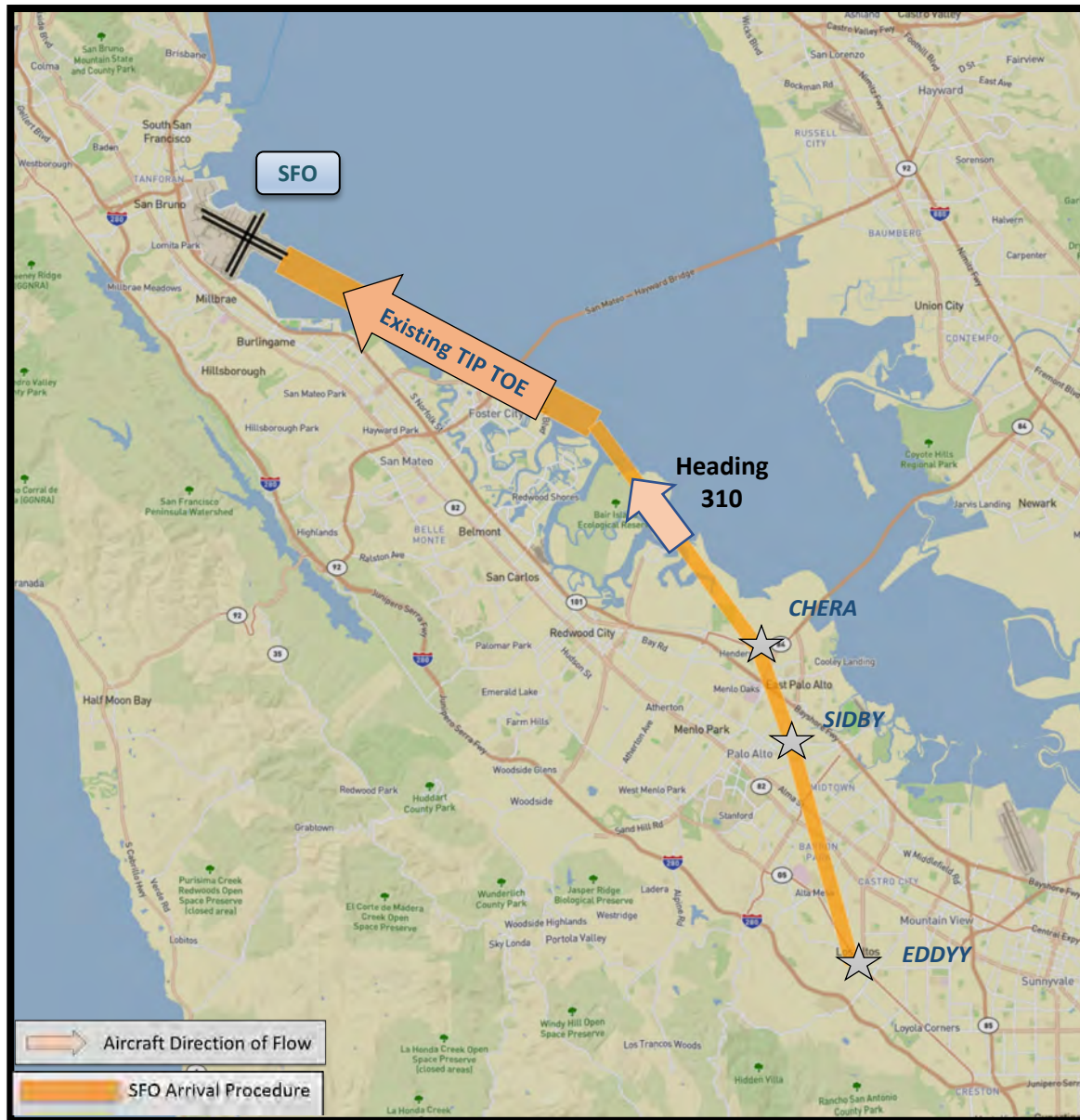
- Latest amendments address safety issues by providing more separation between SERFR and BDEGA arrivals to SFO and BRIXX arrivals to SJC.
- The FAA did this by relocating the JILNA waypoint.
- FAA briefed SJC Airport Commission in May 2021.

Status

- BRIXX THREE implemented in June 2021.



What is the RNAV Visual to SFO Runway 28L?



Procedure

- Aircraft would approach the airport to land on Runway 28L similar to the TIP TOE procedure, using advanced navigation combined with visual cues.
- Aircraft must be equipped to fly a Required Navigation Procedure (RNAV).

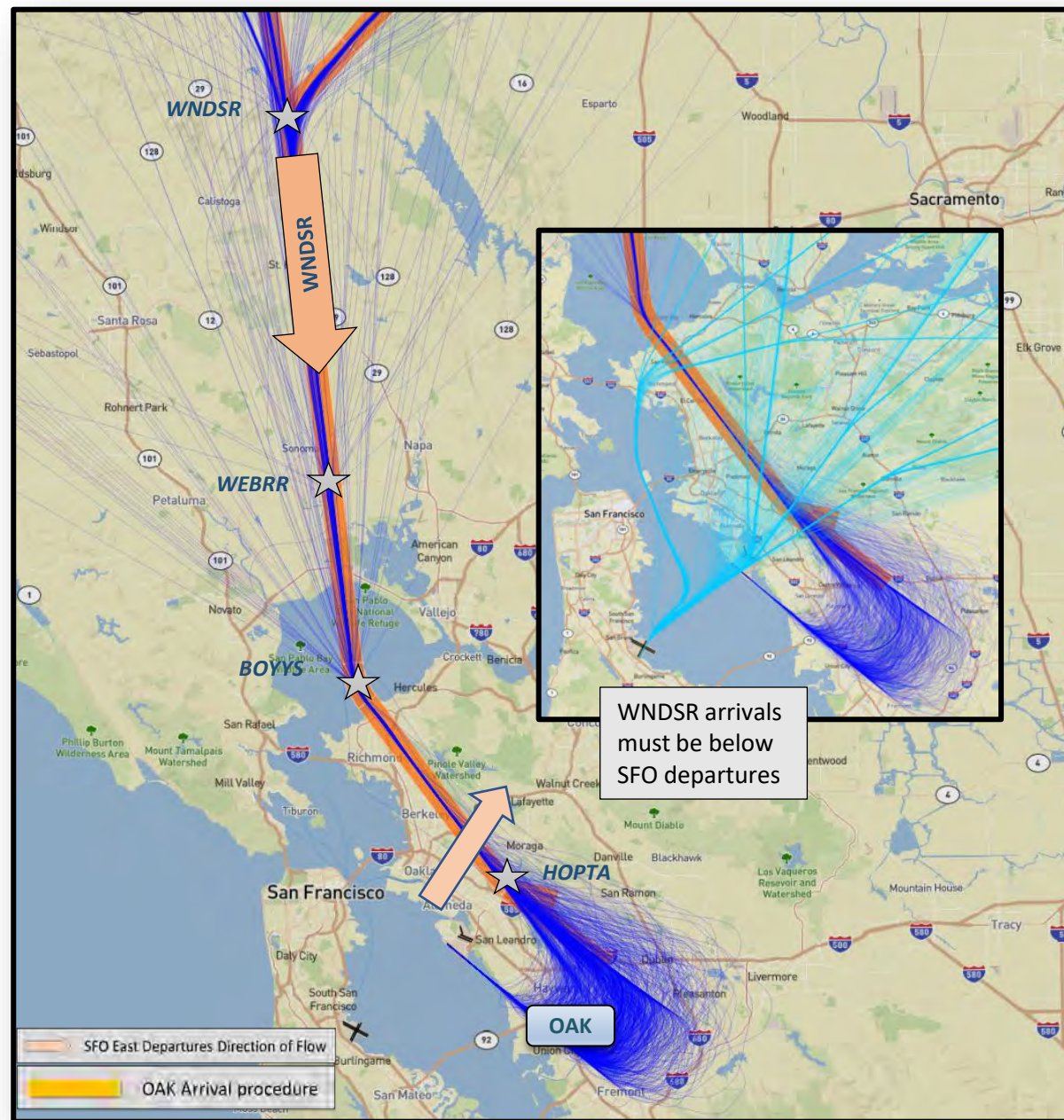
Background

- The request was to create a published procedure using RNAV to replicate the TIP TOE visual approach.
- FAA orders require there be a compelling safety reason and no other viable instrument flight procedure options before developing an RNAV visual overlay approach.

Status

- Explore ways to implement procedure through ongoing collaboration.
- Aircraft still fly the TIP TOE.

What is the WNSDR Arrival?



Procedure

- Arrival procedure for aircraft arriving from the north to OAK.

Background

- The request from the Oakland Noise Forum was to move the WNSDR arrival to the east over less populated areas.
- The FAA explored a variety of options to address the operational safety issues with the current WNSDR route
- This procedure requires air traffic controllers to actively separate aircraft from Bay Area departures and Napa Valley arrivals.

Status

- The WNSDR procedure as published will continue to be used.
- Controllers use speed and/or altitude assignments and vectors to separate aircraft on the WNSDR procedure from aircraft on other procedures.



What are the BIG SUR and SERFR Arrivals?

Procedure

- Arrival procedure to SFO for aircraft arriving from the south.
- The SERFR was designed as an Optimized Profile Descent (OPD), allowing aircraft to descend using idle power, reducing the historic stair-step descent. Aircraft are cleared to the EDDYY waypoint, then are vectored for landing by Air Traffic Control.

Background

- The request was to amend the SERFR procedure to use a similar flight path as the BIG SUR arrival, with specific procedure requirements.
- FAA reviewed details of each requested requirement, completing safety analysis on each.
- Moving SERFR to overlay BIG SUR did not meet safety criteria.

